7.0.0.0 CONCLUSIONS

The conclusions of this study on the evolution of settlements in south 24-Parganas include a short summary of the findings from chapters 1 to 6, a systematic organisation of facts in the form of an empiric idiogram explaining the evolution of settlements in this area and a brief recourse to theoretical discussions.

7.1.0.0 SUMMARY OF OBSERVATIONS

In chapter 1 it is observed through an analysis of definitional problem that settlement can be conceived as an 'ecological niche' of a particular group of people within a broader habitat. It contains all the reflections of the mode or modes of environmental perception of a community occupying a particular habitat. This chapter aims to clarify the objectives of the present research, the temporal processes of colonisation and human occupance as well as the spatial variations in the distribution, form and pattern of rural settlements in the southern parts of 24-Parganas.

Chapter 2 describes the specific interactions between the various components of the physical components which divide the region into a few physical units, within an almost homogeneous tract.

Chapter 3 discusses two distinct phases in the history of colonisation. The early period witnessed discontinued waves of settlement in few localised areas of the region. The contemporary history of colonisation consists a very clear profit motivated process under planned intervention.
Colonial interests through changing grant rules imposed on different parts of Sunderban at different periods have been clearly evidenced. Thus even if we analyse the entire history of the colonisation in the same time scale, these two phases should be viewed as comprising of distinctly separate courses.

In the background of the physical processes distinct variations in cultural configurations have been observed. The analysis of chapter 4 shows that the southern margins of 24-Parganas can be divided into a number of sub-region created of the variation in space bound distribution of sex, caste, occupation as well as by the impact of the available services.

In chapter 5 a series of settlement shapes and forms have been identified and nomenclature given, considering all the variants, the predominance of linear form is clearly established in the entire southern margin. After studying the dominant forms a distinct life history of human settlements in Sunderban can be clearly identified.

Through four representative case studies, chapter 6 analyses the fractional relationship between settlement forms, and effects of a process of reclamation, changing river courses and the development of a market economy as producing distinct cultural landscapes. It is also observed that the significance of fishing as an occupation, generally underestimated should be given its due importance as a major segment of the southern margins is covered by water.

7.2.0.0 A SYSTEMATIC APPROACH TO EVOLUTION OF SETTLEMENT IN SOUTH 24-PARGANAS

From the above summary it is not difficult to understand
the building blocks for the development of rural settlements in south 24-Parganas; yet it may be worth attempting a systematic arrangement of these facts to construct an empiric idiogram that explains the transformation of space over time in this region through a complex set of interactions between physical and cultural forces. The statements below are the outcome of such an attempt.

(i) For any kind of a systematic understanding of the evolution of settlements in south 24-Parganas, it is necessary to note that the area is essentially rural; because such a characterisation certainly helps us to appreciate the unmistakable reality that while cities and towns are much alienated from the uncrolled physical environment in terms of occupations and habitation, rural settlements are not. That occupationally as well as from the standpoint of available services and utilities, the larger part of south 24-Parganas is rural is proved beyond doubt by the observations made in the sub-sections (4.4.1.0; 4.4.2.1 and 4.6.0.0).

(ii) In almost all parts of Sunderban the central tendency in spatial organisation of human settlements is predominantly linear, whether small or big, a ribbon or a cluster. Linearity prevails not only in the alignment of an individual hamlet or a large village, it also prevails in the regional pattern in which even the nodal clusters are interlinked with one another in a linear fashion. All detailed case studies made in this exercise (5.1.0.0; 5.2.0.0; 6.2.0.0; 6.3.0.0; 6.4.0.0; 6.5.0.0) confirm this statement.
In this rural tract the forms and patterns of human settlements are nothing but the spatial expressions of the social mode/s of intervention upon the natural resource endowment or habitat wherein every dwelling can be considered as a family environmental niche and every hamlet a community environmental niche, a microcosm, containing the signature of the profession of the family or the community concerned circumscribed by all the prospects and constraints of the given space as by conditioned the given time. The validity of this statement has been amply demonstrated in our analyses of Nalua (6.2.0.0) where the Adikaibartas built a concentration of their own to carry on their traditional occupation of fishing in the most vantage position, or of Maukhali (6.5.5.1) and Beguakhali (6.5.5.2) in which temporal changes in the physical environmental conditions are reflected in location, spacing, arrangement and seasonality of settlements.

The above kind of response to signals coming from the physical environment has a special character in Sunderban because neither was it the result of the experience derived from a prolonged interaction between social forces and natural environment in a habitat selected spontaneously by a community long back in history; nor was it the result of a free choice on the part of the settlers to migrate into the region, clear the jungle, live there, cultivate the lands and gather fish and forest products since the dense mangrove forests were beyond the purview of their activity space before they moved into
the region. The decision to migrate into the wilderness was imposed from outside on to the settlers by a completely different kind of interest, namely the commercial interest of the British colonial rulers (3.2.1.0).

(v) It should be noted that the above imposition led to emerging conflicts and resolution. Conflicts became frequent between the physical environment of a completely unknown tract and the inherent culture of the migrants. Resolutions in most cases were arrived at rather quickly as a result of the new experience derived from even a very brief contact with the unfriendly environment since the signals were too strong to be mistaken or overlooked and the options were limited. The cases of Bibir abad and Chelikati (6.3.0.0) or of the early failures Sagar and its resettlement after only a short interval are enough evidences of how the adjustments were made.

(vi) Just as the relationships between environment and culture changed over times, conflicts and resolution also characterised the process of interaction between the expectations of the foreign decision-makers as expressed through the rules set for reclamation and the performance of the settlers in reclamation, habitation and cultivation (3.2.2.0; 3.2.2.1; 3.2.2.2 and 3.2.2.3). Most of the grant rules had to be changed and newer agreements had to be forged between the ruler and the ruled (3.2.2.0). The examples of how the physical problems were solved in Gosaba (3.2.3.0) or Sagar (6.4.3.0) can only be understood appreciated by looking into the difference between the Grant rules of 1853, 1867 and 1871 and the large capitalist
Different kinds of adaptations in the process of colonisation of Sunderban are, therefore, the outcome of changing perceptions of both the ruler and the ruled about the environment of the place. But the changes did not affect all areas, all communities, or all sections of the people equally. There are important variations in the perceived environment from community to community and from place to place although the phenomenal environment of the region was largely a homogeneous one. Variations in the cultural configuration are now much sharper than the variations in the natural environment (4.6.1.0; 4.6.2.0 and 4.7.0.0) and this is largely due to variations in environmental perception. Such variations are mostly caused by the factors and processes discussed in the subsequent paragraphs.

There were important horizontal variations in environmental perception during the initial phase of its settlement characterised by ethnic differences which in turn were much related to the place from where the different ethnic groups came to Sunderban. The Mahishyas from the eastern parts of Medinipur, the Poundrakshatriyas from Jessore, Khulna and Faridpur, the tribals coming from Chhotonagpur (3.3.0.0; 4.5.1.0; 4.5.2.0) and also the Muslims coming from different parts — all had different life experience, different outlooks, different customs, rituals and conventions, different habitat perceptions and altogether different world views. Their space preferences within Sunderban itself also remained different for quite a long time (4.5.1.0; 4.5.2.0).
Perceptions also varied vertically across the social structure in the form of classes, the rich lot holders and the poor tillers of the soil. The responsibilities of transforming the face of the land of maintenance and of security were left to the poor who were ultimately forced to live permanently in the hazard ridden Sunderban while almost all rich lot holders lived in Calcutta, Taki and other places outside the boundaries of Sunderban and visited the area only during the harvesting season (3.2.3.0; 3.3.0.0).

Whatever might be the initial differences in the levels and directions of perception among the first settlers, communitywise or classwise, these viewpoints started changing once the shocks radiating from the new habitat were registered. The character of the land itself was responsible for such changes (6.3.4.0). The levees had to be fortified by embankments, the embankments had to be reinforced (6.4.3.0; 6.4.7.0) methodical draining in of fresh water and draining out of saline (6.5.3.1) water had to be done, new varieties of crops (4.4.2.0) had to be selected, new methods of house construction with new materials had to be mastered the character of each stream within vicinity had to be known, the behaviour patterns of wild animals namely tigers, snakes and crocodiles (6.5.3.3) had to be learnt and so on. The process affected all communities almost evenly so that the safety values of the new society against all kinds of possible hazards came to be more or less the same everywhere in Sunderban.

Perceptions did also change consequent upon the compulsion of sharing together the same space by
different ethnic groups. The Chhotonagpur tribal
had to learn the technique of lowlying rice cul-
ture; the Poundrakshatriyas of Khulna and
Faridpur had to be conversant with the law of the
jungle; the Mahishyas from Medinipur had to revive
their lost memory about fishing and the Hindus
and the Muslims alike had to honour the demigods
like Dakshinrai, Banbibi and Gazipur (6.5.3.3).
As one of the most notable cases one can cite the
example from Beguakhali where a group of Mahishyas
agriculturists could perceive the utility of
fishing as a gameful occupation.

Contact and compulsion assumed paramount importance
in changing the perceptions so much so that even
the concept of community living (6.5.2.0) took a
different shape when the politico-administrative
controls exerted by the ruling society compelled
the settlers to succumb to alien models of social
living. The creation of very large mouzas or
revenue units in Gosaba and Sagar under the influ-
ence of Hamilton, (3:3:0:0), Trower, Perintosh
(6:4:2:0) etc. change the concept of the village
drastically from one that was there in the minds
of the native settlers. These changes may be
considered as much more eventful in the life
history of a group than learning a new technique
or absorbing a new tool in the sphere of produc-
tion.

Settlements in Sunderban have a life cycle. With
the changing perceptions there were concomitant
changes in the resource horizon. These changes
in turn became functionally related to changing
forms and patterns of human settlements. Thus
one can possibly establish the logical connections
between changing perceptions, changing concepts of community living, demographic changes and the evolutionary stages in the life cycle of the settlements in Sunderban or for that matter in south 24-Parganas (5.3.2.0).

7.3.0.0 THEORETICAL ABSTRACTIONS

Some purely theoretical issues appear to have emerged out of the empirical observations and conclusions thereof about the process of evolution of rural settlements in south 24-Parganas. These issues are discussed in a nut-shell in the following paragraphs.

Human settlements in all environmental settings and in all times can not be studied in isolation from the economic functions of the community concerned and from the social perception of those resources which sustain the economic functions. Mingled with the social perception of resources is the concept of the community about itself, particularly how small or how large, how closed or how open and how localised or how extensive the community considers itself to be; because the perceived qualities of the resource base largely determines the size of the manpower unit necessary for transforming the potential resources into realised resources. Thus in a rural area, whether the basic functional settlement unit should constitute an administrative territory or a hamlet or should include the dispersed dwellings as well, depends upon the resident perception of the community itself.

The desire to settle permanently in a particular space is driven by the motive of mobilising the surplus energy of the ecosystem from a vantage location because it is basically this energy that provides man with the necessities of life
and makes way for further cultural development.

The availability of surplus energy, to be transferred from the natural ecosystem to the human ecosystem, is assured only when the ecosystem is immature and characterized by a lesser number of species than what is required to consume the entire energy that is fixed by natural processes.

A detritus-based ecosystem remains immature even with considerable species diversity. It is thus easy to understand why human societies are in search of such ecosystems whenever the population-resource balance becomes unfavourable.

Initially most immature ecosystems with a considerable degree of species diversity are considered to be hazardous because they are infested with predatory animals which can sustain themselves with the highly favourable food chain, and also because these ecosystems generally lie at the margins of old established human ecosystems. Immature ecosystems without much species diversity are settled first.

Hazardous ecosystems remain beyond the realm of perception of sedentary communities at a given level of technology, exposure to outside contacts and pressures and a given state of human organisation.

Resident perceptions do not remain unaltered for long and are subjected to change due to wider contacts, changing political history, mimiation of technology, persuasion and indoctrination, force, legislations, increasing information and awareness, changing market relations etc. particularly when the pressures from within become unsurmountable.
Under such a state of situation the hazardous limits are crossed and immature ecosystems with considerable species diversity enter within the resident resource perception. Measures are taken, both in technological and institutional terms to intervene upon the hazardous ecosystem and to replace the natural biodiversity with a few selected species which are desired by the majority of the interest groups, local as well as alien, either for consumption or for export.

For the first settlers in the virgin ecosystem, the physical hazards are the primary problems to be solved while the location decisions are arrived at out of multiple options; and so are the decisions regarding the spacing, arrangement and linkages of the places from which the surplus energy can be mobilised with ease and effectiveness.

With further experience of unforeseen hazards, newer technologies evolve, concepts of community living change, complementary institutional changes take place so that the hazards can be mitigated more effectively.

Aggregate perceptions change through newer experiences and the lacunae in the earlier decisions about the locations, arrangements, orientations, spacings and size of the places from where energy mobilisation were thought to be possible optimally, are identified.

As a result, the settlements reorganised themselves in newer forms, newer types, newer patterns and in newer locations according to the imperatives of the economic functions which the concerned communities are bound to perform.

Along with all these, the demographic pressure increases at a rate exceeding the rate at which energy transduction
takes place leading to shortfalls in energy in the form of food, fuel, fodder, fertility and so on.

More and more lands are then to be reserved for energy production through biotic mechanisms; and lesser and lesser lands are to be devoted to management of energy production and re-distribution or for settlements.

Antithetic to this situation, more and more lands are to be used for accommodating the increasing population and lesser and lesser lands can be used for production of biotic energy. A paradoxical situation therefore, arises when the crisis can no longer be solved through adherence to natural energy dynamics.

The crisis is tried to be solved by, on the one hand, accommodating the entire incremental population within the unused spaces within the older settlements, by increasing the productivity of land and labour through introducing non-renewable fuel and fertilizer supply, by introduction of more productive strains of crops, and on the other hand by diverting the surplus manpower in biotic energy fixation to the management of production and redistribution of economic goods through providing the large compact clusters of settlements with adequate services to cater to their day to day needs from convenient locations capable of mobilising the services.

Settlements at this stage of development start loosing their typical rural forms and patterns and become transactional to urban forms which mark the senility of a process of interaction between physical environment and cultural orientations.